CLAIMS

1. An image pick-up device comprising:

image signal generation means for generating an image signal of a variable frame-rate picked-up image;

drive-and-control means for driving and controlling the image signal generation means;

setting information generation means for generating image pick-up setting information to generate an image signal which is frame-synchronized with the image signal generated by the image signal generation means; and

output means for outputting the image signal generated by the image signal generation means and the image pick-up setting information.

2. The image pick-up device according to claim 1, wherein the output means outputs the image signal with the image pick-up setting information being inserted into a blanking interval thereof.

3. The image pick-up device according to claim 1,

wherein the image pick-up setting information generated by the setting information generation means includes frame rate information; and

wherein the drive-and-control means drives and controls the image signal generation means, staring from a frame of the variable frame-rate picked-up image that is given first after the image pick-up setting information is output, by setting a frame rate indicated by the frame rate information contained in the output image pick-up setting information as a frame rate of the variable frame-rate picked-up image.

4. The image pick-up device according to claim 1, wherein the setting information generation means makes information of a scan line position and a pixel position of an image signal included in the image pick-up setting, said information being generated by the image signal generation means information.

5. The image pick-up device according to claim 1, comprising holding means for holding a frame rate alteration pattern,

wherein when reading the frame rate alteration pattern held in the holding means and instructing a frame rate in accordance with this read frame rate alteration pattern to vary a frame rate of the variable frame-rate picked-up image, the setting information generation means makes information indicating the read frame rate alteration pattern included in the image pick-up setting information; and

wherein the drive-and-control means drives and controls the image signal generation means, starting from a frame of the variable frame-rate pricked-up image that is given first after the image pick-up setting information is output, by setting the instructed frame rate as a frame rate of the variable frame-rate picked-up image.

6. The image pick-up device according to claim 1, comprising:

a plurality of frame rate instruction means each for instructing a frame rate of the variable frame-rate picked-up image; and

operation control means for setting priority sequence to the plurality of frame rate instruction means, to set a frame rate instructed by the frame rate instruction means that has the highest priority as a frame rate of the variable frame-rate picked-up image,

wherein the setting information generation means generates image pick-up setting information which is used to generate an image signal that is frame-synchronized with an image signal having the set frame rate of the variable frame-rate picked-up image.

7. An image pick-up device comprising:

image signal generation means for generating an image signal of a variable frame-rate picked-up image; and

drive-and-control means for receiving image pick-up setting information to generate an image signal that is frame-synchronized with the image signal of a reference variable frame-rate picked-up image, and controlling a driving operation of the image signal generation means based on this image pick-up setting information, thereby frame-synchronizing the image signal generated by the image signal generation means with the image signal of the reference variable frame-rate picked-up image.

8. The image pick-up device according to claim 7, wherein, if the image pick-up setting information contains frame rate information indicating a frame rate of the reference variable frame-rate picked-up image, the drive-and-control means drives the image signal generation means, starting from a frame of the variable frame-rate picked-up image that is given first after this image pick-up setting information is input, by setting a frame rate indicated by the frame rate information contained in the input image pick-up setting information as a frame rate of the variable frame-rate picked-up image.

9. The image pick-up device according to claim 7, wherein, if the image pick-up setting information contains information of a scan

line position and a pixel position, the drive-and-control means synchronizes an image signal generated by the image signal generation means with the scan line position and the pixel position.

10. The image pick-up device according to claim 7, comprising holding means for holding a frame rate alteration pattern,

wherein, if the image pick-up setting information includes information which is used to read the frame rate alteration pattern, the holding means reads the frame rate alteration pattern indicated by this information and instructs a frame rate in accordance with this read frame rate alteration pattern; and

wherein the drive-and-control means drives the image signal generation means, starting from a frame of the variable frame-rate picked-up image that is given first after the image pick-up setting information is input, by setting the frame rate instructed by the holding means as a frame rate of the variable frame-rate picked-up image.

11. The image pick-up device according to claim 7, comprising:

frame rate instruction means for instructing a frame rate of the variable frame-rate picked-up image; and

operation control means for setting priority sequence to the frame rate instructed by the frame rate instruction means and the frame rate based on the image pick-up setting information, to set the frame rate that has higher priority as the frame rate of the variable frame-rate picked-up image,

wherein the signal generation control means drives the image signal generation means by using the frame rate of the variable

frame-rate picked-up image as the frame rate that is set by the operation control means.

12. The image pick-up device according to claim 11, wherein, if input of the image pick-up setting information is stopped when higher priority is set to a frame rate based on the image pick-up setting information than a frame rate instructed by the frame rate instruction means, the operation control means sets a frame rate set before the input of the image pick-up setting information as the frame rate of the variable frame-rate picked-up image.

13. The image pick-up device according to claim 11, wherein, if input of the image pick-up setting information is stopped when higher priority is set to a frame rate based on the image pick-up setting information than a frame rate instructed by the frame rate instruction means, the operation control means sets a frame rate at the time when the input of the image pick-up setting information is stopped, as the frame rate of the variable frame-rate picked-up image.

14. The image pick-up device according to claim 7, comprising output means for outputting an image signal generated by the image signal generation means and the input image pick-up setting information.

15. A synchronization-signal-generating device for supplying a synchronization signal to an image pick-up device having image signal generation means for generating an image signal of a variable frame-rate picked-up image, comprising:

setting information generation means for generating image pick-up setting information which is used to frame-synchronize the image signal generated by the image signal generation means of the image pick-up device with a reference frame;

synchronization signal generation means for generating the synchronization signal that corresponds to the reference frame;

synchronization signal output means for outputting the generated synchronization signal with the generated image pick-up setting information being inserted thereinto; and

control means for setting the reference frame.

16. The synchronization-signal-generating device according to claim 15, wherein the synchronization signal output means inserts the generated image pick-up setting information into a synchronization signal at a position of a blanking interval.

17. An image pick-up device comprising:

an image signal generation portion that generates an image signal of a variable frame-rate picked-up image;

a controller driving and controlling the image signal generation portion;

a setting information generation portion that generates image pick-up setting information to generate an image signal that is frame-synchronized with the image signal generated by the image signal generation portion; and

an output portion that outputs the image signal generated by the image signal generation portion and the image pick-up setting information.